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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,603	04/09/2004	David B. Cross	MS1-1973US	1564

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EXAMINER	
HENNING, MATTHEW T	
ART UNIT	PAPER NUMBER
2431	
MAIL DATE	DELIVERY MODE
06/16/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/821,603	CROSS ET AL.	
	Examiner	Art Unit	
	MATTHEW T. HENNING	2431	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27,29,31-33 and 35-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27,29,31-33 and 35-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

This action is in response to the communication filed on 6/4/2009.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 6/4/2009 have been fully considered but are moot in view of the new grounds of rejection presented below. The newly claimed limitations have been addressed accordingly below.

Regarding the applicant's request for an interview, if the applicant's representative feels an interview would further the prosecution of the application, the applicant's representative is welcome to submit an interview request form via fax to the examiner's direct fax line at 571-273-3790 and to contact the examiner at 571-272-3790 to discuss a date and time for an interview.

All objections and rejections not set forth below have been withdrawn.

Claims 1-27, 29, 31-33, and 35-44 have been examined.

Information Disclosure Statement

The information disclosure statement(s) (IDS) submitted on 6/4/2009 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statements.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 45-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear from the claim language how "**an** event notification" can comprise both a logon event and one of a logout event, lock event, and unlock event, since an event notification would be a notification regarding an event, not a plurality of events. As such, the scope of the claims is not clear. Therefore, the claims are rejected under 35 USC 112 2nd Paragraph for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 1-4, 11-16 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to particular machine, or (2) transform underlying subject matter (such as an article or material) to a different state or thing. See page 10 of In Re Bilski 88 USPQ2d 1385. The instant claims are neither positively tied to a particular machine that accomplishes the claimed method steps nor transform underlying subject matter, and therefore do not qualify as a statutory process. The synchronization method including steps of enumerating and synchronizing credentials is broad enough that the claim could be completely performed mentally, verbally or without a machine nor is any transformation apparent. For example, the claims could be completed by person.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-18, 20-27, 29, 31-33, and 35-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burch et al. (US Patent Application Publication 2005/0171872) hereinafter referred to as Burch, and further in view of Brovick et al. ("WINDOWS® 2000 Active Directory™") hereinafter referred to as Brovick, and further in view of Grambihler et al. (US Patent Number 6560655) hereinafter referred to as Grambihler.

Regarding claim 1, Burch disclosed a method comprising: receiving an event notification (See Burch Paragraph 0043); and synchronizing the local credentials and remote credentials (See Burch Paragraph 0043-0044), but Burch failed to specifically disclose enumerating local credentials and remote credentials in response to the event notification, or wherein the event notification is at least one of the following: a logon event, a logout event, a lock event, and an unlock event. Burch did, however, disclose that the credential stores are directories (See Burch Paragraph 0022).

Brovick teaches that Active Directory is a directory service, which provided replication of data between devices, as well as synchronization of the data between the devices in an Active Directory (See Brovick First Paragraph), and that in order to maintain synchronization between

each copy of the directory, each update to a directory is provided with a USN which is compared with USNs in other devices to determine which updates need to be replicated (See Brovick "Keeping Track").

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Brovick in the credential store system of Burch by utilizing Active Directory to provided the directory service and the synchronization between the credential stores. This would have been obvious because the ordinary person skilled in the art at the time of invention would have been motivated to provide quick and efficient directory services across the distributed credential store.

Grambihler teaches that synchronization can be performed in response to logon and logoff events (Grambihler Summary of the Invention).

It would have been obvious to the ordinary person skilled in the art at the time of invention to have employed the teachings of Grambihler in the system of Brovick by performing the synchronization in response to logon and logoff events. This would have been obvious because the ordinary person skilled in the art would have been motivated to provide increased flexibility to the scheduling of the credential synchronization.

Regarding claim 17, Burch disclosed a method comprising: receiving an event notification (See Burch Paragraph 0043); and synchronizing the local credentials and remote credentials (See Burch Paragraph 0043-0044) and changing at least one of the local credentials in a first local credential cache (Burch Paragraphs 0043-0044), but Burch failed to specifically disclose enumerating local credentials and remote credentials in response to the event

notification. Burch did, however, disclose that the credential stores are directories (See Burch Paragraph 0022).

Burch further failed to disclose a synchronization module which: sorts the local credentials and the remote credentials into a local credential array and a remote credential array respectively and linearly compares the local credential array and the remote credential array; and stores a state file for conflict resolution, the state file comprising: a file version; a flag, wherein the flag indicates whether the credential is user protected (but Burch did disclose that some credentials are user protected in Paragraph 0055); and a credential state, wherein the credential state comprises: last time synchronization module called; last time local store changed; and last time remote cache changed.

Burch further failed to disclose that the change to the first local credential was removal from the cache, wherein the credential removed from the first local credential cache is identified and tagged by the synchronization module in a remote credential cache; and removing the tagged credential from a second local credential cache without rewriting the tagged credential to the remote credential cache. However, addition and deletion of credentials in a credential store was well known in the art at the time of invention, and would have been obvious to the ordinary person skilled in the art at the time of invention. This would have been obvious because the ordinary person skilled in the art would have been motivated to have allowed flexibility in the authorizations granted within the system by allowing authorizations to be granted and taken away.

Brovick teaches that Active Directory is a directory service, which provided replication of data between devices, as well as synchronization of the data between the devices in an Active Directory (See Brovick First Paragraph), and that in order to maintain synchronization between each copy of the directory, each update to a directory is provided with a USN which is compared with USNs in other devices to determine which updates need to be replicated (See Brovick "Keeping Track"). Brovick further teaches keeping track of timestamps of when the local and remote (replicated) data was updated (See Brovick "Conflict Resolution"), and when synchronization was last performed (See Brovick "Intra-Site Replication"). Brovick further teaches that when a change in one local cache is made, the domain controller will mark the change in an up-to-date vector, and then replicate the change in other caches throughout the network without undoing the change (Brovick "Keeping Track").

Further, it was well known in the art at the time of invention to sort data into arrays for linear comparison in order to ease the complexity of the comparison, as well as to use flags to track Boolean properties.

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Brovick in the credential store system of Burch by utilizing Active Directory to provided the directory service and the synchronization between the credential stores. This would have been obvious because the ordinary person skilled in the art at the time of invention would have been motivated to provide quick and efficient directory services across the distributed credential store. It further would have been obvious to the ordinary person skilled in the art at the time of invention to have sorted the local and remote credentials into a local and remote credential array, and then linearly comparing the arrays to

determine conflicts which need to be resolved. This would have been obvious because ordinary person skilled in the art at the time of invention would have been motivated to ease the complexity of the comparison for determining conflicts between the servers. In this combination, the USN reads on the claimed version number. Further still, it would have been obvious to the ordinary person skilled in the art at the time of invention to have stored a flag for each entry in the credential store to track whether the entry was personal (user protected) or not. This would have been obvious because the ordinary person skilled in the art would have been motivated to utilize a well known method for tracking Boolean properties to track the Boolean property of personal entry or not. Even further still, it would have been obvious to the ordinary person skilled in the art at the time of invention to have employed the teachings of Brovick in the synchronization system by marking the deletion of a credential from the cache, and propagating the change to the other caches in the network. This would have been obvious because the ordinary person skilled in the art would have been motivated to synchronize the caches.

Burch further failed to disclose that the event notification comprised a logon event.

Grambihler teaches that synchronization can be performed in response to logon and logoff events (Grambihler Summary of the Invention).

It would have been obvious to the ordinary person skilled in the art at the time of invention to have employed the teachings of Grambihler in the system of Brovick by performing the synchronization in response to logon and logoff events. This would have been obvious because the ordinary person skilled in the art would have been motivated to provide increased flexibility to the scheduling of the credential synchronization.

Regarding claim 33, Burch disclosed a system comprising: an event handler to receive event notifications (See Burch Paragraph 0043-0044); and a synchronizing module operatively associated with the event handler to synchronize local credentials and remote credentials if the local and remote credentials are different from one another (See Burch Paragraph 0043-0044), but Burch failed to specifically disclose enumerating local credentials and remote credentials in response to the event notification, or wherein the event notification is at least one of the following: a logon event, a logout event, a lock event, and an unlock event. Burch did, however, disclose that the credential stores are directories (See Burch Paragraph 0022).

Brovick teaches that Active Directory is a directory service, which provided replication of data between devices, as well as synchronization of the data between the devices in an Active Directory (See Brovick First Paragraph), and that in order to maintain synchronization between each copy of the directory, each update to a directory is provided with a USN which is compared with USNs in other devices to determine which updates need to be replicated (See Brovick "Keeping Track").

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Brovick in the credential store system of Burch by utilizing Active Directory to provided the directory service and the synchronization between the credential stores. This would have been obvious because the ordinary person skilled in the art at the time of invention would have been motivated to provide quick and efficient directory services across the distributed credential store.

Grambihler teaches that synchronization can be performed in response to logon and logoff events (Grambihler Summary of the Invention).

It would have been obvious to the ordinary person skilled in the art at the time of invention to have employed the teachings of Grambihler in the system of Brovick by performing the synchronization in response to logon and logoff events. This would have been obvious because the ordinary person skilled in the art would have been motivated to provide increased flexibility to the scheduling of the credential synchronization.

Regarding claims 2 and 18, Burch, Brovick, and Grambihler taught that synchronizing the local credentials and the remote credentials is based on at least one time-stamp associated with the local credentials and at least one time-stamp associated with the remote credentials (See Brovick Conflict Resolution).

Regarding claims 4 and 31, while Burch, Brovick, and Grambihler did not specifically teach that the synchronizing included error handling, it was well known in the art of data transmission to include error handling, and therefore would have been obvious to the ordinary person skilled in the art at the time of invention to have done so.

Regarding claims 5 and 20, Burch, Brovick, and Grambihler taught writing at least one of the local credentials to a remote credential cache (See Burch Paragraph 0056).

Regarding claims 6 and 21, Burch, Brovick, and Grambihler taught writing at least one of the remote credentials to a local credential cache (See Burch Paragraph 0053).

Regarding claims 7-8 and 22-23, while Burch, Brovick, and Grambihler taught that changes in local credentials are duplicated in the remote credential store, and vice versa, they failed to specifically disclose deleting remote credentials. However, addition and deletion of credentials in a credential store is well known, and would have been obvious to the ordinary person skilled in the art at the time of invention. This would have been obvious because the

ordinary person skilled in the art would have been motivated to have allowed flexibility in the authorizations granted within the system by allowing authorizations to be granted and taken away.

Regarding claims 9 and 24, Burch, Brovick, and Grambihler taught modifying at least one of the local credentials at a local credential cache based on at least one of the remote credentials (See Burch Paragraph 0053).

Regarding claims 10 and 25, Burch, Brovick, and Grambihler taught modifying at least one of the remote credentials at a remote credential cache based on at least one of the local credentials See Burch Paragraph 0056).

Regarding claims 11 and 26, Burch, Brovick, and Grambihler taught updating a list of local credentials (See Brovick "Keeping Track").

Regarding claims 12 and 27, Burch, Brovick, and Grambihler taught updating a list of remote credentials (See Brovick "Keeping Track").

Regarding claims 13, and 29, Burch, Brovick, and Grambihler taught determining a state of the remote credentials dynamically (See Brovick "Intra-Site Replication" and "Inter-Site Replication").

Regarding claim 14, Burch, Brovick, and Grambihler taught maintaining a state file for the remote credentials (See Brovick "Keeping Track").

Regarding claim 15, Burch, Brovick, and Grambihler taught maintaining a state file for the local credentials (See Brovick "Keeping Track").

Regarding claims 16 and 32, Burch, Brovick, and Grambihler taught resolving a conflict of state between the local credentials and the remote credentials (See Burch Paragraph 0044 and Brovick "Conflict Resolution").

Regarding claim 35, Burch, Brovick, and Grambihler taught that the credentials include at least one of the following: an encryption credential, a token, an asymmetric key pair, a symmetric key, a digital certificate, an XrML license, an authentication credential, an authorization credential (See Burch Paragraphs 0022-0024).

Regarding claim 36, Burch, Brovick, and Grambihler taught that a local store manager to enumerate the local credentials for the synchronizing module (See Brovick "Keeping Track").

Regarding claim 37, Burch, Brovick, and Grambihler taught that a remote store manager to enumerate the remote credentials for the synchronizing module (See Brovick "Keeping Track").

Regarding claim 38, Burch, Brovick, and Grambihler taught that the local credentials are stored in a local cache (See Burch Paragraph 0053).

Regarding claim 39, Burch, Brovick, and Grambihler taught that the local credentials are stored in a local cache provided at any number (n) of clients (See Burch Paragraph 0053).

Regarding claim 40, Burch, Brovick, and Grambihler taught that the local credentials are encrypted using a master key (See Burch Paragraph 0025).

Regarding claim 41, Burch, Brovick, and Grambihler taught that the remote credentials are stored in a remote cache (See Burch Paragraph 0056).

Regarding claim 42, Burch, Brovick, and Grambihler taught that the local credentials are stored in a remote cache provided at any number (n) of hosts (see Burch Paragraph 0056).

Regarding claim 43, Burch, Brovick, and Grambihler taught that the remote credentials are maintained by a remote directory service (See Burch Paragraphs 0022 and 0056).

Regarding claim 44, Burch, Brovick, and Grambihler taught that the remote credentials are encrypted (See Burch Paragraph 0025).

Claims 3 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Burch, Brovick, and Grambihler as applied to claims 1 and 17 above, and further in view of Yianilos et al. (US Patent Application Publication 2002/0029214) hereinafter referred to as Yianilos.

Burch, Brovick, and Grambihler disclosed detection of changes between local and remote credentials, but failed to disclose that the synchronizing was based on a comparison of hash values.

Yianilos teaches an alternative method for detecting differences between entries in a synchronization system which involves generating a hash for the local data and a hash for the remote data, and comparing the hashes, wherein if the hashes are different then a change has been detected and synchronization is required (See Yianilos Paragraphs 0083 – 0084).

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Yianilos in the synchronization system of Burch, Brovick, and Grambihler by detecting changes by comparing hashes of the local and remote credential stores. This would have been obvious because the ordinary person skilled in the art would have been motivated to minimize the network traffic generated by the synchronization.

Conclusion

Claims 1-27, 29, 31-33, and 35-47 have been rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW T. HENNING whose telephone number is (571)272-3790. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571)272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew T Henning/
Examiner, Art Unit 2431